GRUJIC, Milic

Recurrence of pulmonary tuberculosis following therapy. Tuberkuloza, Beogr. 11 no.3:287-317 '59.

1. Institut za tuberkulozu NR Srbije, Beograd, direktor: prof. dr M. Grujic.
(TUBERCULOSIS PULMONARY therapy)

GRUJIC, M.

The life and activities of Col. Prof. Dr. Jezdimir Studic. Tuberkuloza, Beogr. 12 no.4:3-8 '60.

(OBITUARIES)

GRUJIC, Milic

Some problems in anti-tuberculosis services in the People's Republic of Serbia in 1959. Tuberkuloza, Beogr. 12 no.4:95-111 '60.

1. Institut za tuberkulozu NR Srbije (direktor prof. dr M. Grujic)

(TUBERCULOSIS prev & control)

GRUJIC, Milic, prof., dr; BUDISAVLJEVIC, Manojlo, doc., dr; MARTINIS, Uros, dr

The problem of the pathogenesis of tuberculosis considered from the viewpoint of modern medical science. Med. glas. 15 no.12/12a:460-466 D '61.

1. Institut za tuberkulozu NR Srbije (Direktor: prof. dr M. Grujic)

(TUBERCULOSIS etiol)

5

YUGOSLAVIA

GRUJIC, Prof Dr Milic, Director (Direktor), and Svetislav VLAJNIC, Institute of Tuberculosis of Serbia (Institut za Tuberkulozu NR Srbije).

"The Problems of BCG Vaccination in Serbia."

Belgrade, Glasnik Zavoda za Zdravstvenu Zastitu NR Srbije, Vol 11, Nos 3-4, 1962, pp 13-21.

Abstract: /Authors' Serbocroatian summary modified/ Improvement in work with BCG vaccination would require better coordination among health institutions and the formation of a BCG service in anti-tuberculosis dispensaries to which to entrust the vaccination of children born at home. The proportion of vaccination among children born in maternity wards in Serbia rose from 63 to 78 percent between 1958 and 1961, but the proportion of vaccination among all children (those born in maternity wards and those born at home) in 1961 was only 32 percent. Children's and school dispensaries devote insufficient attention to the problem. Seven 1/1/tables, two graphs, no references.

VUCKOVIC, Lj.; GRUJIC, M.; ZEGARAC, D.; DJURIC, O.; VLAJKOVIC, Lj.

Results of the treatment of exudative pleurisy in children in the past 15 years. Tuberkuloza 15 no.1:33-38 Ja-Mr '63.

1. Institut za tuberkulozu NR Srbije, Beograd - Direktor: prof. dr M. Grujic.

(PLEURAL EFFUSIONS)
(TUBERCULOSIS, PLEURAL)
(TUBERCULOSIS IN CHILDHOOD)
(STATISTICS)

S

YUGOSLAVIA

GRUJIC, Milic, and ZEGARAC, Dusanka, Serbian Tuberculosis Institute (Institut za Tuberkulozu NR Srbije).

"Statistical Processing and Analysis of Data on the Spread, Clinical Forms, and Treatment of Pulmonary Tuberculosis among Children in 1960 and 1961."

Belgrade, Narodno Zdravlje, Vol 19, No 6, 1963, pp 203-207.

Abstract: An incomplete survey covering 51.4 percent of persons up to the age of 25 who suffered from tuberculosis in 1960 and 1961 in Serbia showed that housing conditions are unfortunate in that 40.5 percent of those surveyed sleep in a common bed with non-tubercular members of the household (65.2 percent in the Kosmet, 57.6 percent in Belgrade), while 90.7 percent live in a common room with other household members. Scarcely more than half were treated in hospital institutions. The proportion of chronic postprimary tuberculosis (27.9 percent) was alarming. Of those vaccinated with BCG vaccine, 7.6 percent contracted tuberculosis within the first year after vaccination and 34.4 percent by the end of the third year, suggesting that reactions to the vaccine were not examined with sufficient care. The authors propose more extensive hospital treatment but are also aware that tubercular children are put in general children's departments without isolation from healthy children in most cases. Six graphs, no references.

1/1

YUGOSLAVIA

GRUJIC, Milic, and ZEGARAC, Dusanka, of the Serbian Tuberculosis Institute (Institut za Tuberkulozu SR Srbije) in Belgrade.

"The Problems of Protecting Healthy Children and Young People from Tubercular Families in Serbia in 1960 and 1961."

Belgrade, Narodno Zdravlje, Vol 19, No 7-8, 1963, pp 249-253.

Abstract: The authors analyze data from a survey of 13,494 persons of 25 years of age or less who live in a household with at least one member who suffers from tuberculosis and find that action to protect such children and young people is at a minimum. The authors urge tuberculin testing for children from such families as an obligatory procedure, with vaccinations for tuberculin-negative children without delay for the regular vaccination period, along with further study of the possibility of separating healthy children from tubercular families.

Eight graphs, no references.

1/1

L 11614-66

ACCESSION NR: AP5025444 YU/0015/64/000/010/0299/0305

AUTHOR: Grujic, Miroslav (Professor, Doctor)

TITLE: Organizational principles in First Aid Services

SOURCE: Medicinski glasnik, no. 10, 1964, 299-305

TOPIC TAGS: first aid, health service, injury, medical facility

ABSTRACT: Comprehensive analysis of the general aspects of needs for first aid service, context of work and demands of the basic medical emergency aid, transportation problems, differential frequency of various emergency pathological conditions includes data about the various types of accidents by anatomical localization and cause as seen in 20,936 accidents recorded at the Traumatologic Hospital in Zagreb in 1963; 2132 hospitalizations resulted from these accidents. Of the 300 patients hospitalized in all departments of all hospitals in Zagreb on any single day, 60 are considered emergency. However, the types of emergency admissions differ very widely from the true emergency with vital indications for surgical aid to those who suddenly become emergency cases when they find

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L 1164-66
ACCESSION NR: AP5025444 0

that the hospital which is close to their home or which they prefer for some other reason is on duty for emergency assistance on that day, or who come to outpatient dispensary after 8 o'clock at night and the doors are closed. A number of proposals for improvement of emergency care in Zagreb hospitals are discussed.

ASSOCIATION: Traumatoloska bolnica, Zagreb (Traumatologic Hospital)

SUBMITTED: 00 ENCL: 00 SUB CODE: LS, GO

NR REF SOV: 000 OTHER: 000 JPRS

Card 2/2

GRUJIC, Milic; VLAJNIC, Svetislav

The problem of BCG vaccination and re-vaccination in Serbia in 1963. Tuberkuloza 16 no.3:311-315 My-Ag '64

1. Institut za tuberkulozu, Socijalisticke Republike Srbije, Beograd (Direktor: prof. dr. Milic Grujic).

GRUJIC, Miroslav, prof. dr.

Prospects of military surgery in modern warfare. Vojnosanit. pregl. 21 no.6:401-404 Je '64

1. Traumatoloska bolnica u Zagrebu.

GRUJIC, Miroslav ,prof. dr.

Principles in the organization of first aid services. Med. glas. 18 no.10:299-305 O'64.

1. Traumatoloska bolnica, Zagreb (Ravnatelj: prof. dr. M. Grujic).

GRUJIC, Nikola (Geograd, Somborska 3)

Dynamic investigations of the constants of elasticity of the rocks where the future underground sections of the Dubrovnik Hydroelectric Plant will be built. Vodoprivreda Jug 2 no.4/5:56-62 '59. (EEAI 9:10)

1. Geoloski zavod, Beograd.
(Dalmatia--Hydroelectric-power stations)
(Rocks)

TELEKI, G.; GRUJIC, R.; DJOKIC, M.

Observations with the 110 mm zenithal telescope of the Latitude Service of the Observatory. New program. Bul Obs Beograd 25 no.2:49-55 '63.

TELEKI, G.; DJOKIC, M.; G[illegible]

Observations with [illegible] zenithal telescope of the Latitude Service of the Observatory. Old program. Bul Obs Beograd. 25 no.2:56-60 '63.

[illegible], [illegible].

[illegible] in the treatment of [illegible]. Med. arh. 18 no.1:80-93 Ja-F '64.

1. Ginekolosko-akuserska klinika Medicinskog fakulteta u Sarajevu (Sef: Prof. dr [illegible]).

GRUJIC, V

"First Scientific Tour of Serbia by the Natural-Science Scholars of the Serbian Lyceum From 1857-1863." P. 457 (NAUKA I PRIRODA) (Vol. 6, No. 10. 1953 Beograd, Yugoslavia)

SO: Monthly List of East European Accession L. C. Vol. 3, No., 4 April 1954

GRUJIC, J.

"Teaching exact sciences at the reception of the lycaeum," p. 353, (NASA I PRIRODA, Vol. 7, No. 8, 1954, Beograd, Yugoslavia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 4, Apr 1955, Uncl.

GRUJIC, V. (Beograd)

Vasa Pelagic on rehabilitation of persons with limited capabilities. Bul sc Youg 8 no. 1/2: 18 F-Ap '63.

[illegible] ...ANOV [illegible]

Mi [illegible] ...ion of cobalt [illegible] plants with [illegible] ti... ilmenoxime. Glas Hem dr [illegible] no.9 [illegible]

1. Faculty of Natural Sciences and Mathematics of the University of Belgrade, Belgrade Chemical Institute, Belgrade, Veterinary Faculty of the University of Belgrade, Belgrade, and Institute of Domestic Animal Nutrition, Belgrade.

GRUJIC-RADIVOJEVIC, Bosa; CVETKOV, Radojica

2 cases of congenital methemoglobinemia. Srpski arh. celok. lek. 88 no.6:723-726 Je '60.

1. Interno odeljenje Opste bolnice "Dorde Joanovic" u Zrenjaninu. Nacelnik: dr Bosa Grujic-Radivojevic.

(METHEMOGLOBINEMIA case reports)

GRUMM-GRZHIMAYLO, A.G.

Who was the author of the article "On the characteristics of Siberia" published in "Kolokol" in 1860? Izv. Vses. geog. ob-va 95 no.5: 458-459 S-O '63. (MIRA 16:12)

GRUJIC-VASIC, Jela

7

(4)

Nicotine hydrate. Determination of its composition by physicochemical methods. Mladen Deželić, Bordan Stančić, and Jela Grujić-Vasić (Sarajevo Univ., Yugoslavia). *Bull. soc. chimistes repub. pop. Bosnie et Herzegovine* 2, 19–27(1953); cf. preceding abstr.—In order to investigate the exact compn. of nicotine hydrate, n^{ϑ}, n^{ϑ}, surface tension, cond., and pH of liquid mixts. of nicotine (I) and H_2O were detd. These data are tabulated and graphically represented *vs.* mol. % of I. A curve is also given showing differences between exptl. and calcd. values of n vs. mol. % of I. This curve and the surface tension curve have a max. at 25 and 30 mol. % I, resp. The cond. isotherm has an inflection at 25 mol. % I, while the pH curve is not indicative at all, having the shape of a neutralization curve. It is concluded that I forms with H_2O a trihydrate of the compn. $C_{10}H_{14}N_2.3H_2O$.

N. Plavšić

GRUJIC-VASIC, J.

Polarographic investigation of the autoxidation of vitamin C and the problem of its stabilization. M. Deželić, J. Grujić-Vasić, and B. Bobarević (Sarajevo Univ., Yugoslavia). *Bull. soc. chimistes repub. pop. Bosnie et Herzegovine* 2, 55-67(1953).—Observations are recorded on the rate of autoxidation of a 0.04% aq. soln. of L-ascorbic acid, with and without small addns. of $CuSO_4$ (I), $K_4Fe(CN)_6$ (II), and KCNS (III) at room temp. (18-20°) and −5°. The polarographic method was applied for controlling the autoxidation by detg. the acid concn. at various time intervals. Traces of I increased the autoxidation considerably; however, small amts. of II and III displayed a good stabilizing action, which was still better when Cu ions were present. The effect was better at −5° than at room temp.

N. Plavšić

Grujic-Vasic, J.

YUGO.

√ Polarographic determination of the autoöxidation of vitamin C and the problem of its stabilization. II. Mladen Deželić and J. Grujić-Vasić (Univ. Sarajevo, Yugoslavia). *Bull. soc. chimistes repub. populaire Bosnie et Herzegovine* 3, 23–36(1954)(German summary); cf. *C.A.* 48, 7063*f*.—By addn. of 0.0001 *M* of $ZnSO_4$ and $FeCl_3$ to 0.002 *M* solns. of ascorbic acid (I), the concn. of the latter dtd. polarographically, after standing for 24 hrs. at room temp., dropped from 100% to 25–27% (to 45–50% in case of $FeSO_4$ and $Pb(NO_3)_2$). The catalytic effect of cations on the autoöxidation of I decreases in sequence of Cu^{++}, Zn^{++}, Fe^{+++}, Fe^{++}, and Pb^{++}. Upon addn. of $K_4Fe(CN)_6$ or KCNS, however, after 48 hrs. at room temp., the concn. of I was over 60% (95% with samples kept in refrigerator). It is concluded that before dtg. polarographically vitamin C, small amts. (1–3 mg./100 ml.) should be added to its soln. in order to obtain more accurate results. N. Plavšić

GRUJIC-VASIC, J.; DEZELIC, M.

Polarographic study of the autoxidation of vitamin C and the problem of its stabilization. III. p. 27.

BILTEN DOKUMENTACIJE. TEHNIKA SAOBRACAJNIH SREDSTAVA. (Drustvo hemicara i tehnologa NR Bosne i Hercegovine. GLASNIK) Sarajevo, Yugoslavia. Vol. 7, 1958.

Monthly List of East European Accessions (EEAI) LC Vol. 9, no. 2, Feb. 1960.

Uncl.

CETINIC, F.; GRUJIC-VASIC, J.

Androgenic hormones in milk. Pt.1 Glasnik hemicara BiH 11:19-24 '62.

1. Biochemical Laboratory, Clinic for Infectious Diseases and Institute of Chemistry, Medical Faculty, University of Sarajevo.

DEZELIC, Mladen, dr.; GRUJIC-VASIC, J.; REPAS. A.

Metallic salts of esculin and fraxin, and salts of their aglycons. Glasnik hemicara BiH 11:25-30 '62.

1. Hemijski institut, Medicinski fakultet, Univerzitet, Sarajevo.
2. Redacteur en chef, "Glasnik Drustva hemicara i tehnologa SR Bosne i Hercegovine" (for Dezelic).

DRZELIC, M.; POPOVIC, R.; GOJIC-VALIC, J.

Polarographic studies on the auto-oxidation of vitamin C and on the problem of its stabilization. IV. Complexon III as a vitamin C stabilizer. Vojnosanit Pregl. 20 no.11: 707-711 N '63.

1. Medicinski fakultet, Institut za hemiju, Univerzitet u Sarajevu.

DEZELIC, M.; GRUJIC-VASIC, J.; [illegible]

Composition of nicotinic compounds with oligratic acids determined by the stalagmometric method. Glasnik hemicara 12:53-58 '63.

1. Laboratory of Organic Chemistry and Biochemistry, Chemical Institute, University of Sarajevo, Sarajevo. (for Dezelic and Grujic-Vasic). 2. Chemical Institute of the Faculty of Veterina in Sarajevo (for Romic).

[illegible], [illegible]; [illegible], [illegible]; [illegible]

Some derivatives of [illegible] pyrazolin. [illegible] 12: 1?7-?? '62.

1. Laboratory of [illegible] Chemistry and [illegible], [illegible] Agriculture, University of [illegible], [illegible].

Grujicic, G.

YUGOSLAVIA / General and Special Zoology. Insects. Harmful Insects and Arachnids. General Problems. P

Abs Jour: Ref Zhur-Biol., No 21, 1958, 96477.

Author : Grujicic, G., Tomasevic, B.
Inst : Not given.
Title : Pests and Diseases of Cultivated Plants, Observable in Yugoslavia for 20 years (1934-1953).

Orig Pub: Zashtita bil'a, 1956, 38, 87-106.

Abstract: Observations of the service of plant protection are systematized. Harmful insects, arachnids, pathogenic fungi, viruses and bacteria are enumerated; species of infested plants, intensity of damage, locations and data of exposure are indicated. -- From the authors' resume.

Card 1/1

16

GRUJICIC, M.

Yugoslavia (430)

Technology-Periodicals

Standards for material and their application in railroads. p. 154. ZELEZNICE. (Jugoslavenske zeleznice) Beograd. (Monthly on railroad problems issued by the Yugoslav Railways) Vol. 8, No. 5, May 1952.

East European Accessions List. Library of Congress Vol. 2, No. 6, June 1953. Unclassified.

GRUK, M.; KHOLODNOV, N.

Operational supervision of the fulfillment of scheduled production costs. Mias. ind. SSSR. 30 no.4:32-33 '59. (MIRA 12:12)

1.Leningradskiy myasokombinat (for Gruk). 2.Moskovskiy tekhnologicheskiy institut myasnoy promyshlennosti (for Kholodnov).
(Meat industry--Costs)

PERKOWICZ-ZAMLYNSKA, Wanda; GRUK, Marian.

Recklinghausen's disease with renal calcinosis (6-year post-operative observation on a case). Pol. arch. med. wewnet. 34 no.2:175-181 '64.

1. Z III Kliniki Chorob Wewnetrznych Sl. AM w Bytomiu (kierownik: prof.dr.med.K.Gibinski) i z III Kliniki Chirurgicznej Sl.AM w Bytomiu (kierownik: doc.dr.med. C.Sadlinski).

[illegible], [illegible]

[illegible]rnovskiy, [illegible] I. and [illegible], [illegible] "[illegible] processes by [illegible]eans of water [illegible]es", Sbornik trudov Ki[illegible] [illegible], Issue 1, 194[illegible], p. 128-[illegible].

So: U-[illegible]61, 1[illegible] April [illegible], (Letopis 'Zhurnal 'nykh Statey, No. 1[illegible], 194[illegible]).

GRUKHIN, I.V.

Practices in the electrification of the Maloyaroslavets - Sukhinichi section. Transp. stroi. 14 no.7:6-8 Jl '64. (MIRA 18:1)

1. Glavnyy tekhnolog tresta Kaluzhtransstroy.

GRUKHIN, I.V.

In the struggle for reducing labor in housing construction.
Transp. stroi. 15 no.9:28-29 S '65. (MIRA 18:11)

1. Glavnyy tekhnolog tresta Kaluzhtransstroy.

L 1301-66 EWT(d)/EWT(l)/EWT(m)/EWP(w)/T-2/EWP(1) IJP(c) WW/EM/BC
ACCESSION NR: AP5022453 UR/0209/65/000/009/0019/0023

AUTHORS: Grukhin, N. (Engineer, Captain); Karpenko, V. (Engineer, Major); Shirokov, B. (Engineer, Lieutenant Colonel)

TITLE: In bumpy air conditions

SOURCE: Aviatsiya i kosmonavtika, no. 9, 1965, 19-23

TOPIC TAGS: aircraft stress, aircraft control, aircraft control system, atmospheric turbulence, automatic pilot, aircraft stability, gust load

ABSTRACT: The control problems involved in flying through bumpy air were studied to determine the best control system. Structural overloading (caused by the wind) and maneuvering stress components must be minimized, and angles of attack exceeding the critical one must be avoided. Manual control causes up to 50% more overloading situations than autopilot control, since the plane's moment of inertia prevents the pilot from rapidly changing the pitch angle. An autopilot can react to pitch angle, angular acceleration, and altitude or may be insensitive to altitude. Small altitude changes produce insignificant control signals, and large altitude changes result in control with increased maneuvering overloading. Thus, in all conditions (except for gale gusts which must be studied further) the

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L 1301-66

ACCESSION NR: AP5022453

autopilot without altitude sensitivity provides the best control in bumpy air. The autopilot does not eliminate overloading. Tests conducted on overloading stabilization systems indicated that these were ineffective and that improvements must be sought by developing a method for utilizing the changes in the lift force. Orig. art. has: 5 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: AC

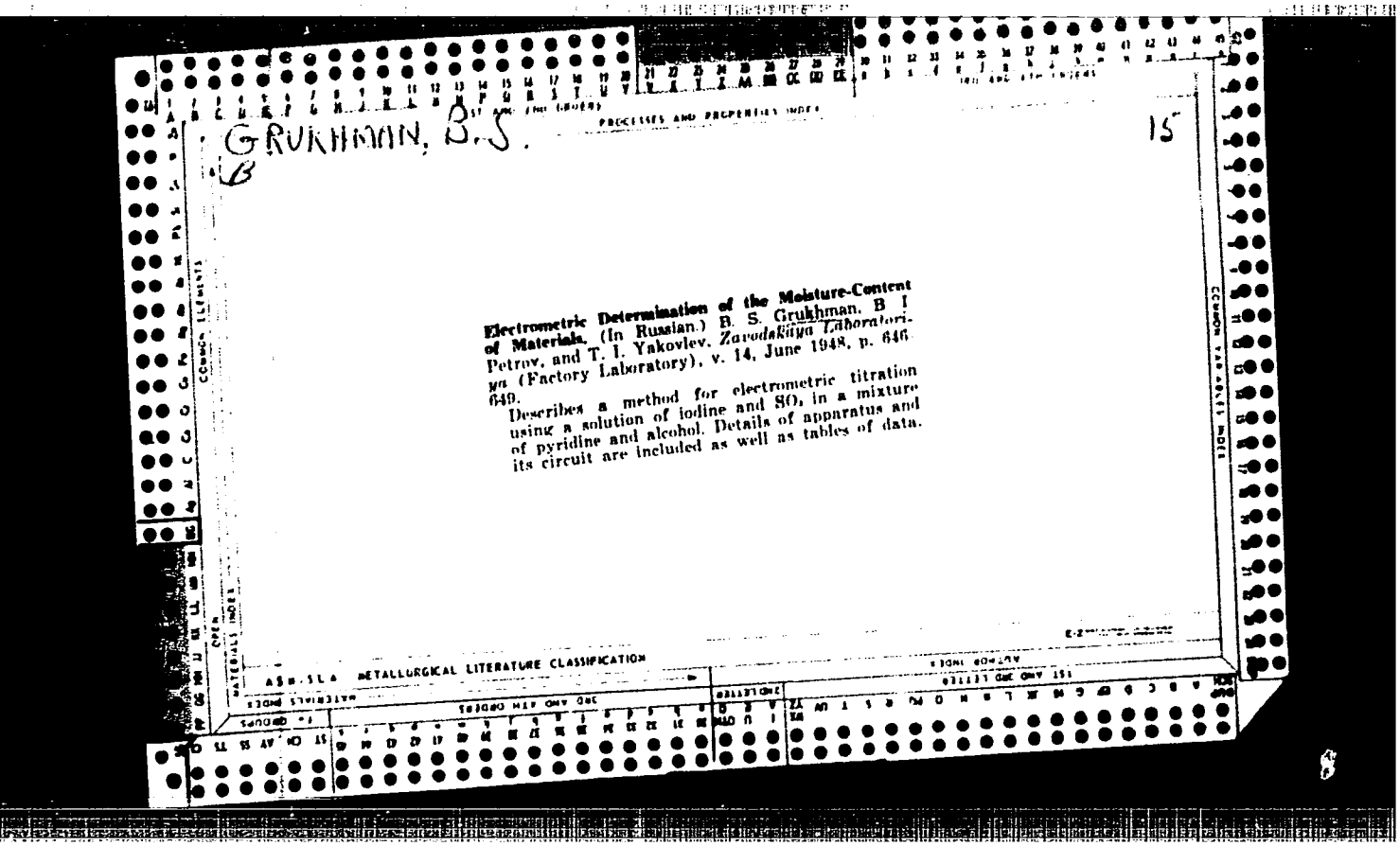
NO REF SOV: 000 OTHER: 000

Card 2/2

GRUKHIN, N.P.

Cortisone and ACTH treatment of trichinosis. Vrach. delo no.9:115-116 S '61. (MIRA 14:12)

1. 2-ya gorodskaya bol'nitsa, Karpinsk, Sverdlovskoy oblasti. (CORTISONE) (ACTH) (TRICHINA AND TRICHINOSIS)



GRUKHMAN, B.S.

15

Electrometric Determination of the Moisture-Content of Materials. (In Russian.) B. S. Grukhman, B. I. Petrov, and T. I. Yakovlev. *Zavodskaya Laboratoriya* (Factory Laboratory), v. 14, June 1948, p. 646-649.

Describes a method for electrometric titration using a solution of iodine and SO_2 in a mixture of pyridine and alcohol. Details of apparatus and its circuit are included as well as tables of data.

GRUKUS, G. D.; MILLER, S. V.; BESSONOVA, A. P. ; GRAD KOV, L. A.; GORLANOVA, N. M. ; GUTLIB, YE. V. ; SAKYAN,A. V.; STUNIN-AKHAREV, I. A.; FILATOVA, A. S. SURIS, V. G.:

"Sanitary labor conditions in the electrolytic shops of aluminum plants and the essential health-protection measures."

report submitted at the 13th All-Union Congress of Hygienists, Epidemiologists and Infectionists, 1959

HUNGARY/Electronics - Photocells and Semiconductor Device. H.

Abs Jour : Ref Zhur - Fizika, No 7, 1959, 15979

Author : Gombay, L., Gerlai, J., Heves, I.

Inst : The University, Szeged, Hungary

Title : Preparation of Pressed Photocells from CdS Powder

Orig Pub : Acta Phys. et chim. Szeged, 1958, 4, No 1-2, 30-34

Abstract : The authors have prepared an investigated valve CdS photocell. Powdered CdS was pressed into tablets 1.6 cm in diameter and 0.1 cm thick (weight 600 -- 300 mg), heated to 520° C and slowly cooled. Non-transparent metallic electrodes in the form of cones were deposited by evaporation. During the course of the preliminary experiment the authors have determined the optimum pressure in pressing and investigated the effectiveness of the electrodes made of various materials. Photocells

Card 1/2

HUNGARY/Electronics - Photocells and Semiconductor Device H.

Abs Jour : Ref Zhur - Fizika, No 7, 1959, 15979

with aluminum and gold electrodes were characterized by the following data: internal resistance in darkness approximately 30 megohms; when illuminated in 3,000 lux (color temperature 2800° K) the current was 1.6 microamperes and the photo emf 0.135 volts. The photocell has a narrow spectral characteristic with a maximum near 480 millimicrons and (unlike the CdS photoresistance) has almost no sensitivity at $\lambda <$ 500 millimicrons. -- N.V. Vasil'chenko

Card 2/2

G

HUNGARY / Zoopareasitology. Mite and Insect

G

Czechoslovakia

Abs Jour : Ref Zhur - Biologiya, No 22, 1958, No 99636

Author : Grulich, I.; Povolny, B.
Inst : Not given
Title : On the Ecology of the Family Nycteribidae and a Detailed Study of their Hosts.

Orig Pub : Zool.listy,1956,5,No.2,97-100

Abstract : Sucked blood was collected from bats obtained from the caves of southern Slovakian karst. The most complete collections were obtained from narcotized bats. The number of parasites discovered on one individual Miniopterus schreibersi varied between 2-5 and more, and those on Rhinolophus ferrum-equinum and Myotis myotis equaled 2. A study of the ecology of the species of the family of Nycteribiidae demonstrated a high species specificity of some of them which is determined not by particularities of the host, but by the microclimate of the habitat

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Czechoslovakia

G

Abs Jour : Ref Zhur - Biologiya, No 22, 1958, No 99636

of the bats. For instance, Penicillidia dufouri, as a specific parasite of M.Myotis, is found on it more frequently in the warm districts of the southeast, although M.Myotis is found in the whole territory of Czechoslovakia. The presence of Nycteribia upon not characteristic hosts was demonstrated, which is explained by the common ecology of bats and their contact in the summer period. A conclusion was made on the stenothermal and stenohydric character of the majority of the species of the family of Nycteribiidae.--From the authors' summary.

Card 2/2

KOZUCH, O.; GRULICH, I.; KOSEK, J.

Experimental infection of [illegible] with tick-borne encephalitis virus. Acta virol. (Praha) [Eng] 9 no.3:287 My'65.

1. Institute of Virology, Czechoslovak Academy of Sciences, Bratislava; and Institute of Vertebrate Zoology, Czechoslovak Academy of Sciences, Brno.

GRULL, F.

"Steppe reservations at the border of the [illegible] forests.", p. [illegible],
([illegible] PRIRODY, Vol. 3, #2, May 1953, Czechoslovakia)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of Congress, August 1953, Uncl.

GRULL, Frantisek.

GRULL, FRANTISEK.

Vegetacni pomery Zdanskeho lesa. Brno, Prirodovedecka fakulta Masarykovy university (1954) 60 p. (Brno. Universita. Prirodovedecka fakulta. Spisy. Rada L 7, G 4, cis. 352) (Vegetative conditions in the Zdanicd Forest. Russian summary. illus., maps, bibl., tables. Darel Zipletal: Geology of crystalline rocks in the Czech Massif of the Oder-Vistula Valley (primordial mountain ranges), of the Carpathian Flysch, of Molasse, and of young volcanites. Russian summary)

SO: Monthly List of East European Accession, (EEAL), LC, Vol. 4, No. 9, Sept. 1955, Uncl.

DRNDARSKI, Dusan, major dr.; GRULOVIC, Gojko, major dr.; LERO, Zagorka, kapetan dr.

Local streptomycin therapy of tuberculous lymphadenitis of the neck. Voj. san. pregl., Beogr. 11 no.11-12:636-641 Nov-Dec 54.

1. Klinika za grudne bolesti VMA

(TUBERCULOSIS, LYMPH NODE
cervical ther., local streptomycin)
(STREPTOMYCIN, ther. use
tuberc., cervical lymph nodes, local admin.)

HORVAT-GRUBAC, Ana; SIMOVIC, Radmila; GRULOVIC, Gojko

Effectiveness of BCG vaccination in a massive intra-familial tuberculous infection. Tuberkuloza 15 no.1:21-23 Ja-Mr '63.

1. Decji dispanzer Zvezdare i CATD[Centralni anti-tuberkulozni dispanzer], Beograd - Upravnik: dr Radojka Pavicevic.
(BCG VACCINATION) (TUBERCULOSIS IN CHILDHOOD)
(TUBERCULOSIS, LYMPH NODE) (TUBERCULOSIS, PULMONARY)
(EPIDEMIOLOGY)

S

GRULOVIC, N.

Second congress in Vukovar as a reminiscence of participarotrs; on the occasion of the 40th anniversary of the League of Communists of Yugoslavia. p. 67.

VOJNI GLASNIK. (Jugoslavenska narodna armija) Beograd, Yugoslavia
Vol. 13, no. 3, Mar. 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 9, Sept. 1959.

Uncl.

GRUM-GRZHIMAILO, Aleksei Grigor'evich

GRUM-GRZHIMAILO, Aleksei Grigor'evich. Nauchno-tvorcheskii put' L.S. Berga (K 70-letiiu so dnia rozhdeniia). (Priroda, 1946, no. 5, p. [illegible]) DLC: [illegible]

SO: LC, Soviet Geography, Part I, 1951, un 1.

GRUMM-GRZHIMAYLO, A.G.

General assembly of active members of the Geographical Society of the U.S.S.R., honoring G.E. Grumm-Grzhymailo. Izv.Vses.geog. ob-va 92 no.3:289-290 My-Je '60. (MIRA 13:6)
(Grumm-Grzhymailo, Grigorii Efimovich, 1860-1936)
(Geography--Congresses)

1. GRUM[redacted]-GRAZHIMAYLO G. YE.

2. USSR (600)

4. Geoglogy and Geography

7. Description of a Trip to Western China, G. YE. Grumm-Grzhimaylo author and editor. Second edition, abridged, (Moscow, Geography Press, 1948) Reviewed by E. M. Murzayev, No 3 1949.

9. [redacted] Report U-3081, 16 Jan. 1953, Unclassified.

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S/135/60/000/010/002/015
A006/A001

AUTHORS: Gel'man, A. S., Professor, Doctor of Technical Sciences, Mel'bard, S. N., Bogdanov, V. N., De-Millo, P. G., Grum-Grzhimaylo, I. A., Engineers

TITLE: Pipe Welding by Radio-Frequency Current

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 10, pp. 4-7

TEXT: The welding of up to 6 mm thick pipes by radio-frequency current was first investigated in 1958 at TsNIITMASh. Further studies were performed together with NIITVCh. The following personalities participated in the work: from TsNIITMASh: I. L. Brinberg, Candidate of Technical Sciences; from VNIIMETMASh: V. V. Nosal', Doctor of Technical Sciences, Anisiforov, Candidate of Technical Sciences, N. A. Sarychev, and V. S. Antsiferov, engineers; from NIITVCh: M. P. Glukhanov, Candidate of Technical Sciences. On a laboratory installation (Fig. 2) strips with chamfered edges were drawn by clamping rollers at a required opening angle between the edges to be welded (α). The overlap of the strips was fixed by supporting rollers. Radio frequency current was fed to the edges through sliding contacts. The current was concentrated on the edge

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surface and penetrated to a depth of 0.04 - 0.12 mm. The molten metal was pressed by the rollers thus forming the welded joint. The welding speed was 3.5 - 20 m/min. The magnitude of compression ranged from 0 to 4,000 kg. Experimental welds were made on 3 - 6 mm thick carbon steel strips with chamfered edges. Specimens of the welds were subjected to static tests and showed a strength equalling that of the base metal. The quality of the joint is determined by the uniform heating of the edges. Stable heating conditions are obtained at an opening angle of the edges not below 4°. The uniformity of heating is enhanced by a greater slope of the chamfer (β). Best results were obtained at $\beta = 42°$. The quality of the welds depends moreover to a high degree on the dimension of the overlap which must be maintained with great accuracy. Satisfactory results when welding 3 mm thick strips were obtained under the following conditions: electric generator of 9 kw voltage and 9 amp current intensity; 6 m/min welding speed; 4,000 kg compressive force. It was established that the quality of joints when welding 3 - 6 mm thick strips was improved by increasing the compression of the edges in the welding area. Welding conditions for chamfered strips are given in Table 1 and mechanical properties of joints are represented in Table 2 and 3. Overlap welding of chamfered edges with radio frequency current may be used for the production of pipes with helical seams and for

Card 2/3

large-diameter pipes with straight seams. Welding without chamfering is simpler and may be used when the structures to be welded permit such type of joint. There are 7 figures and 3 tables.

ASSOCIATION: TsNIITMASh (Gel'man, Mel'bard); NIITVCh (Bogdanov, De-Millo); VNIIMETMASh (Grum-Grzhimaylo

Card 3/3

S/598/62/000/007/003/040
D267/D307

AUTHORS: Grum-Grzhimaylo, I. V. and Gromova, V. G.

TITLE: Phase diagrams of the system titanium-chromium-molybdenum at 1200, 900 and 600°C

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Titan i yego splavy. no. 7, Moscow, 1962. Metallokhimiya i novyye splavy, 35-42

TEXT: Structure of alloys in the solid state was investigated along three radial sections originating in the apex of the concentration trianlge corresponding to Ti, and along supplementary sections parallel to the triangle sides. All specimens were subjected to homogenization, which completely eliminated the dendritic structure. The exposure to the temperature of 1200°C lasted 5 - 10 days; 900°C - 30 - 50 days, and 600°C - 50 days. The homogeneity or heterogeneity of alloys was determined by using special etchants, and the phase composition of heterogeneous alloys was also checked by X-ray phase analysis (Debye method). Three phase regions were

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S/598/62/000/007/003/040
D267/D307

Phase diagrams of ...

found in the diagrams of phase equilibria at 1200 and 900°C:(1) homogeneous solid solution based on the body-centered lattice (β-Ti, α-Cr, Mo); (2) two-phase region: solid solution + the intermetallic compound $TiCr_2$, and (3) homogeneous region of $TiCr_2$ (with a very limited concentration interval). Seven phase regions were found at 600°C: (1) as (1) above; (2) homogeneous solid solution based on the hexagonal Ti lattice; (3) β-Ti + $TiCr_2$ (two phases); (4) as (3) above; (5) two-phase region α + β -- the result of the polymorphous transformation of alloys adjoining the system Ti-Mo; (6) two-phase region α + (α + $TiCr_2$), and (7) three-phase region α + β + $TiCr_2$. There are 6 figures and 2 tables.

Card 2/2

SHVETS, V.I.; DOROFEYEVA, L.T.; VOLKOVA, L.V.; GRUM-GRZHIMAYLO, M.A.; SHMIDT, I.S.; PREOBRAZHENSKIY, N.A.

Study of complex lipids. Paths in the synthesis of the starting substances of phospholipids. Zhur. ob. khim. 34 no.10:3303-3308 O '64. (MIRA 17:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

SHVETS, V.I.; DOLOFEYEVA, L.T.; [illegible]; VOLKOVA, L.V.; PREOBRAZHENSKIY, N.A.

Complex lipids. Synthesis of levorotatory and dextro-levorotatory Alpha-phosphatidylcholines (lecithins) with equal and different acid residues. Zhur. ob. khim. 34 no.12:3983-3986 D '64 (MIRA 18:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

L 09140-67 EWT(m)/EWP(t)/ETI/EWP(k) IJP(c) JD/HW
ACC NR: AP6027292 SOURCE CODE: UR/0133/66/000/008/0728/0731

27

AUTHOR: Grum-Grzhimaylo, N. A.

ORG: VNIIMETMASh

TITLE: Determining forming forces of spirally wound tubes produced on the 1020 half-sleeve type continuous machines

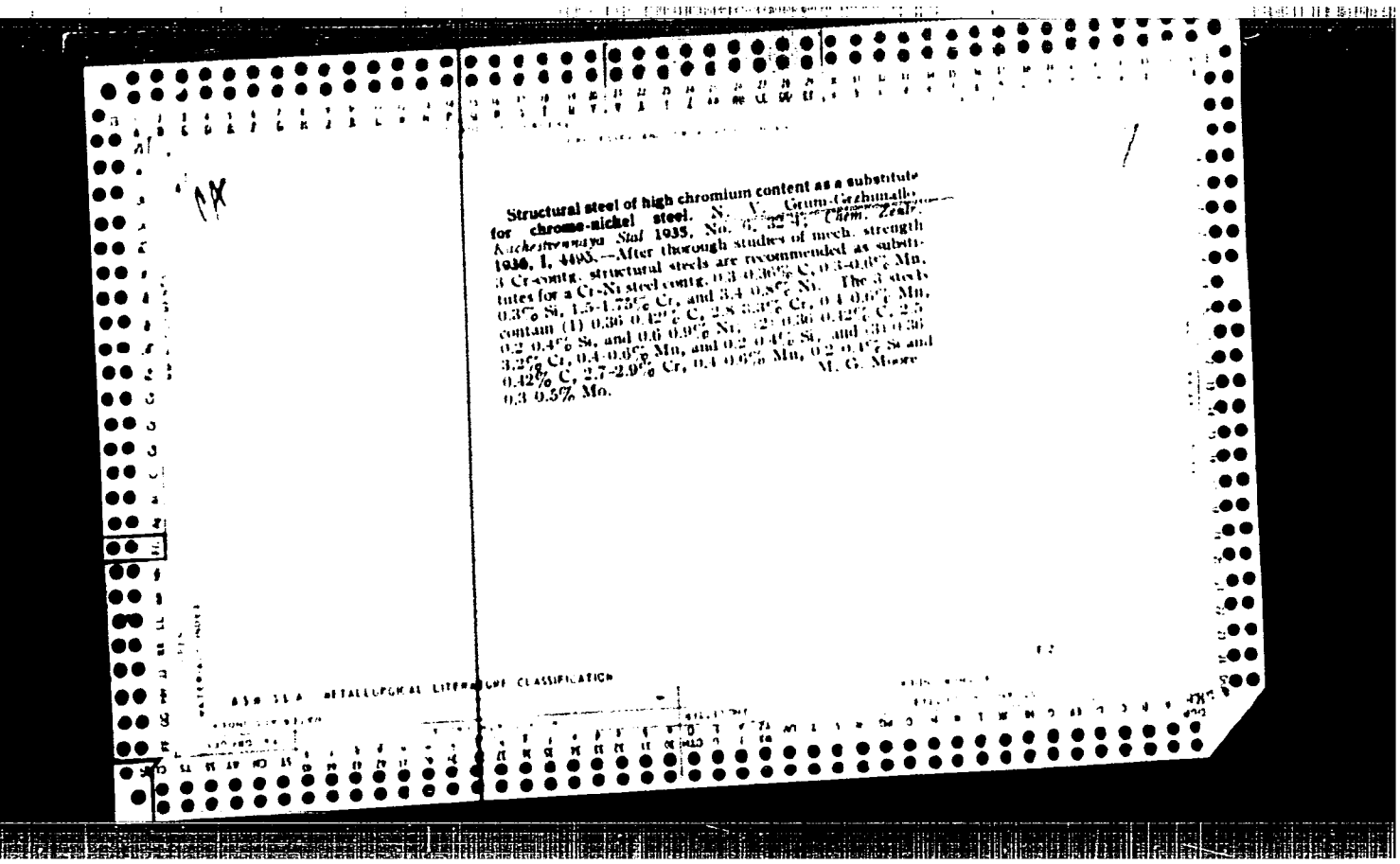
SOURCE: Stal', no. 8, 1966, 728-731

TOPIC TAGS: metal tube, metal forming machine tool, parameter

ABSTRACT: The author presents a formula for calculating the forming forces of large diameter tubes. The formula yields values which are close to minimum with respect to continuous forming. On the other hand, the rated forces exceed this minimum by a factor of 2.4-2.5 and the rated forces are exceeded by a factor of 3.5-4 during short periods of overload and band jamming. The formula was derived on the basis of a study carried out by the author on the power parameters of the feed mechanism used in the 1020 half-sleeve continuous mill. Orig. art. has: 7 figures, 9 formulas.

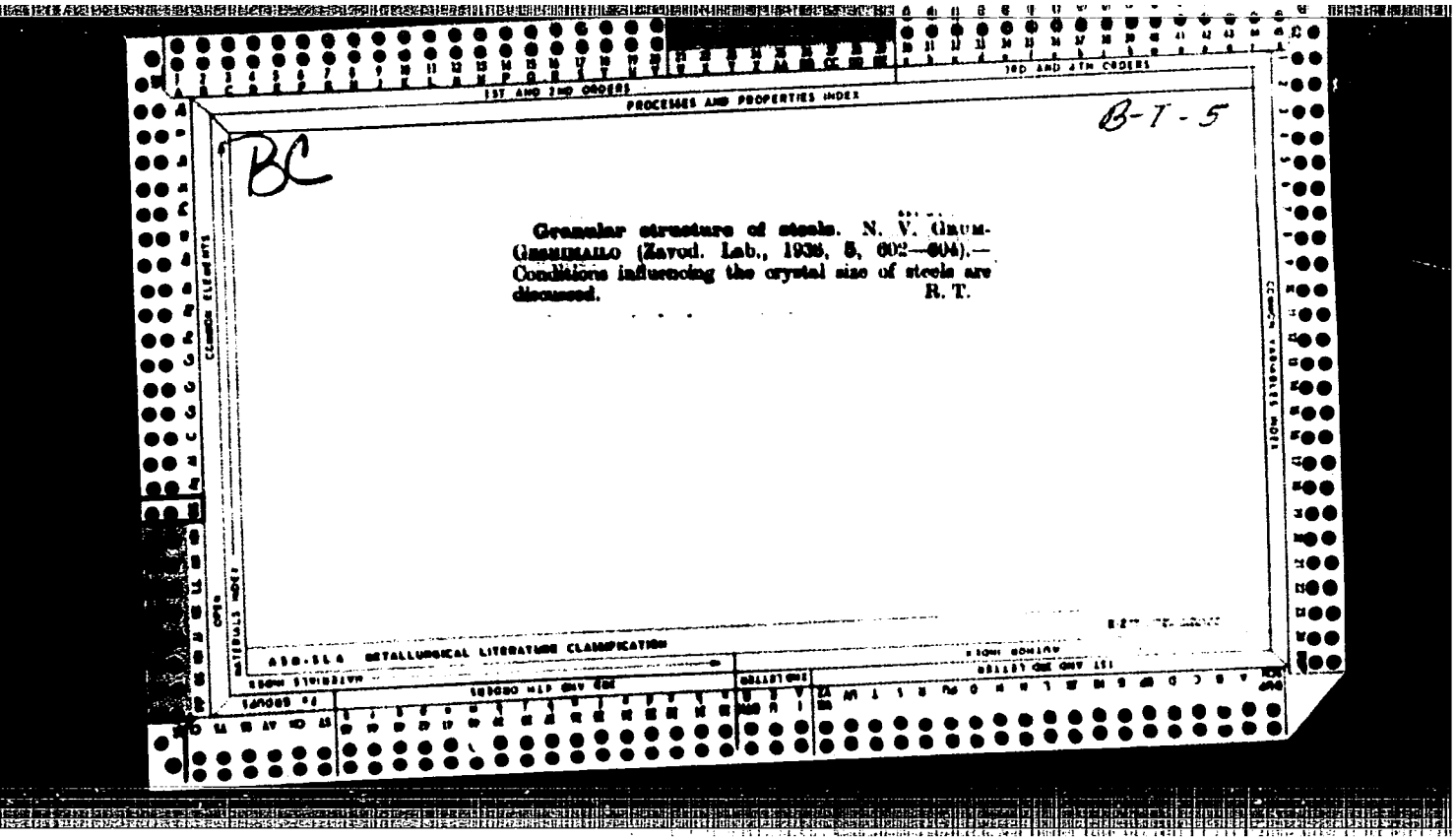
SUB CODE: 11, 13/ SUBM DATE: None/ ORIG REF: 006/ OTH REF: 001

Card 1/1 nst UDC: 621.774.2



Structural steel of high chromium content as a substitute for chrome-nickel steel. N. V. Grum-Grzhimailo. *Khim. Zeal. Kachestvennaya Stal* 1935, No. 6, 22-4; *Chem. Zentr.* 1936, I, 4405.—After thorough studies of mech. strength 3 Cr-content structural steels are recommended as substitutes for a Cr-Ni steel contg. 0.3 0.36% C, 0.5-0.6% Mn, 0.3% Si, 1.5-1.75% Cr, and 3.4 0.8% Ni. The 3 steels contain (1) 0.36 0.42% C, 2.8 3.3% Cr, 0.4 0.6% Mn, 0.2 0.4% Si, and 0.6 0.9% Ni; (2) 0.36 0.42% C, 2.5 3.2% Cr, 0.4 0.6% Mn, and 0.2 0.4% Si, and (3) 0.36 0.42% C, 2.7-2.9% Cr, 0.4 0.6% Mn, 0.2 0.4% Si and 0.3 0.5% Mo.

M. G. Moore



PROCESSES AND PROPERTIES INDEX

B-T-5

BC

Granular structure of steels. N. V. Grum-Grshimailo (Zavod. Lab., 1938, 5, 602—604).— Conditions influencing the crystal size of steels are discussed. R. T.

Law of changes of crystalline lattice parameter of solid solutions. N. V. Grum-Grzhimailo (*Compt. rend. Acad. Sci. U.R.S.S.*, 1941, [illegible], 237–240).—Empirical rules for the variation of lattice parameter with composition of alloys are given, taking into account chemical forces participating in the building up of the crystal lattice as well as the at. vol. of the constituents. The formula proposed is satisfactory for solid solutions if the nature of the components present is correctly known. The formula is applied to Fe–Si, Fe–Al, and Fe–Pd alloys. A. J. M.

On the Significance of the Coefficients in the Formula Determining the Crystalline Lattice Constant of Solid Solutions. N. V. Grum-Grzhimaylo (*Compt. rend. (Doklady) Acad. Sci. U.R.S.S.*, 1943, **40**, [illegible]. [In English.] The value of the coeff. of proportionality in G. G.'s formula for the deviation of lattice-spacing curves from Vegard's rule (*ibid.*, 1941, **33**, 237; *Met. Abs.*, 1943, **10**, 110) may be estimated from statistical laws. An outline of the method of calculation is given, but no evidence of the reliability of the evaluation produced.—G. V. R.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS | 3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

2

Thermodynamics of crystallochemical compounds of austenite. N. [I.] Grum-Grzhimailo. *Doklady Akad. Nauk S. S. S. R.* 41, 26-7(1943); *Compt. rend. acad. sci. U. R. S. S.* 41, 24-6(1943)(in English).—The coeff. of proportionality dete. the degree of departure from Wegardt's rule is related to the internal energy of a given crystallochem. compd. by an equation previously derived (cf. preceding abstr.). It is possible, therefore, starting from the parameter, *v*, of the crystal lattice and knowing the chem. formula of a given crystallochem. compd. to det. the internal energy and entropy of the latter, from which the equation of the isochore can be constructed. In this way the equil. between ordered and disordered phases can be calcd. This approach is applied to the investigation of the crystallochem. compds. Fe_4C and $Fe_{24}C_4$ and of the disordered phase existing in Fe-C alloys. J. W. P.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

2

Crystallochemical compounds of solid solutions. Iron alloys. N. V. [illegible], Compt. rend. acad. sci. U. R. S. S. 41, 378-9(1943)(in English).—Published data (10 references) relating to various solid binary and ternary solns. of N, Cr, Ni, Si, Al, V, Co, Zn, W, Cu and C in Fe were analyzed by methods previously developed by G. (cf. preceding abstr.). From the lattice-const. data available in the literature, it was possible to condense formulas for the lattice parameter, v, and det. the structure formulas of the crystallochem. [illegible] in the chem. formulas of the crystallochem. compds. of which 2 main groups were revealed. Group I consists of crystallochem. compds. of the substitution type characterized by superstructural at. groupings whose main cell, in a body-centered cubic lattice, is formed by 1, 8, 27, etc., elementary cells of the centered cube of α-Fe without disturbing the symmetry of the crystal. In α-solid solns., crystallochem. compds. of this type can be constructed by replacing the atom centering the elementary cell of α-Fe with the atom of the admixt. Group II includes crystallochem. compds. formed with atoms placed mainly outside the nodes of the lattice, i. e., lying in the interat. spaces. This type of compd. can be considered to involve mol. groupings of atoms within the lattice, with the lattice atoms partly involved in forming the mol. groupings. J. W. Perry

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

GRUN-GRZHIMAILO, N. V.

The electric resistance of one-phase univalent metals. N. V. Grun-Grzhimailo. *Doklady Akad. Nauk S.S.S.R.* 79, 461–2(1951).—The test of Nordheim's (*C.A.* 25, 5616) theory of the elec. resistance, and its conclusion of a parabolic dependence of the residual resistance on the compn., against data for Ag-Au alloys, is unsuitable on account of: the tendency of these alloys to form ordered structures; strong deviation of the change of the lattice const. from additivity, evidence of strong interat. interaction forces; possibility of excited states of the atoms, as a result of the small excitation energies of the *d* bands of Ag and Au; and unproved independence of the temp. coeff. of the resistance of the compn. More suitable objects for a test of Nordheim's theory are K-Rb alloys in which the atoms cannot be in different excited states. The coefts. *a* and *b* of Mathiesen's formula $10^6\rho = (T/a) - b$ were evaded from exptl. data of Kurnakow and Nikitinskl. *a* is shown to increase, and *b* to decrease linearly with the amt. of K in the alloy. The variation of the residual resistance is entirely different from that predicted by Nordheim's theory. The additivity of the residual resistance is preserved also in the presence of chem. bonds in the solid soln. N. Thon

GRUM-GRZHIMAYLO, N. V.

GRUM-GRZHIMAYLO, N. V. - "Chemistry of Metallic Alloy Solid Solutions." Sub 11 Jun 52, Inst of General and Inorganic Chemistry imeni N. S. Kurnakov, Acad Sci USSR. (Dissertation for the Degree of Doctorates in Chemical Sciences).

SO: Vechernaya Moskva January-December 1952

GRUM-GRZHIMAYLO, N.V.

"Chemical Changes Preceding the Ordering of the 50% Alloy of Iron with Cobalt. N. V. Grum-Grzhimaylo (*Doklady Akad. Nauk S.S.S.R.*, 1952, 87, (1), 57–58). [In Russian]. G.-G. had shown previously (*Izvest. Sekt. Fiz.-Khim. Anal.*, 1949, 19, 531) that in the succession of solid soln. of Fe and Co with b.c.c. lattices there is only one chem. compound, Fe_2Co_3. However, Kussmann, Scharnow, and Schulze (*Z. techn. Physik*, 1933, 10, 449; *Met. Abs.* (*J. Inst. Metals*), 1933, 53, 182), Ellis and Greiner (*Trans. Amer. Soc. Metals*, 1941, 29, 415; *M.A.*, 8, 7), and Shull and Wollan [*Science*, 1948, 108, 69) have found that in the 50 at.-% Fe alloy energy conditions leading to the formation of an ordered structure develop at 700°–750° C. G.-G. has investigated the temp.-dependence of the galvanomagnetic effect (change in elect. resistance in a longitudinal magnetic field) of this alloy over the range 25°–800° C.; there was a sharp change in the graph of $\Delta\rho/\rho$ versus temp. at 600° C. This confirms G.-G.'s hypothesis that the ordering transformation is preceded by the formation of a new chem. compound (FeCo) in solid soln.

—G. V. E. T.

GRUM-GRZHIMAYLO, N.V.

2

Electrical resistance of iron, copper, and nickel alloys in a longitudinal magnetic field. N. V. Grum-Grzhimailo. *Issled. Sektora Fiz.-Khim. Anal., Akad. Nauk S.S.S.R.* 23, 101-9(1953).—The max. relative change in elec. resistance was detd. for Cu (0-34 at. %)-Ni, Fe (0-100 at. %)-Ni, and Cu-Fe-Ni alloys. The results indicated the existence of $CuNi_{12}$, $CuNi_6$, $FeNi_{12}$, $FeNi_6$, $FeNi_3$, $FeNi_2$, $FeNi$; $3FeNi_3$-$CuNi_{12}$, $2CuNi_3$-$FeNi_3$, Cu_2Ni_3-$2FeNi_3$-$2CuNi_3$, and Cu_2Ni_3-$2FeNi$.
M. Hoch

Inst. Gen. & Inorg. Chem. im. Kurnakov. AS USSR

GRUM-GRZHIMAYLO, N. V.

Goldhammer effect in alloys of the ternary system Fe-Ni-Co. N. V. Grum-Grzhimailo. *Izvest. Akad. Nauk S.S.S.R., Otdel. Tekh. Nauk* 1954, No. 12, 137-9.—The object of the expts. was the detn. of the chem. compn. of alloys of the system Fe-Ni-Co on the basis of the variation of the Goldhammer effect. Variation of the Goldhammer effect was induced for all the alloys of the ternary system. The results of this variation were used to establish a tridimensional diagram "compn.-Goldhammer effect." The axonimetric projection of the diagram is reproduced in the article. The diagram shows that the variation of the galvanomagnetic effect as the function of the compn. exhibits additive character. In certain definite intervals of compn. the summits of the ordinates were on an inclined plane common to these intervals of compn. The line of intersection of these planes joined in points corresponding to the compn.: Fe_3Ni-$CoNi_3$, $FeNi_3$-$CoNi$, and Fe_3Ni-Fe_3Co. This diagram confirms the results relative to the binary systems established earlier, except that it seems that $CoNi_3$ is a syntectic phase formula than $CoNi_3$; also, the existence of Co_3Fe was denied. In particular, the diagram reveals a jump-like passage for $FeNi_3$-$CoNi$ and a total lack of influence of the phase boundaries on galvanomagnetic effect. N. Goldowski

Df

Category: USSR / Physical Chemistry.
Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical analysis. Phase transitions. B-8

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29926

Author : Grum-Grzhimaylo N. V.
Inst : not given
Title : Some Peculiarities of Change in Galvano-Magnetic Properties Depending on Composition of Alloys

Orig Pub: Zh. neorgan. khimii, 1956, 1, No 6, 1361-1367

Abstract: Consideration of the results of investigation of Goldhammer effect (the phenomenon of change in electric resistance, $\Delta\rho/\rho$, on application of a longitudinal magnetic field) in Ni - Co, Fe - Co, Fe - Ni alloys and in ternary alloys Fe - Ni - Co and Fe- Cu - Ni. Graphs of the dependence of $\Delta\rho/\rho$ on composition, show breaks or discontinuities at concentrations corresponding to stoichiometric proportions of the components. It was found that phase boundaries may not affect the magnitude of galvano-magnetic effects.

Card : 1/1

Grum-Grzhimaylo N. V.

Category: USSR / Physical Chemistry - Crystals B-5

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29768

Author : Grum-Grzhimaylo N. V.
Inst : not given
Title : Electric Resistance and Hall Effect of Gold-Silver Alloys

Orig Pub: Zh. neorgan. khimii, 1956, 1, No 9, 2048-2051

Abstract: Determination of the temperature dependence of specific resistance ρ of a number of Ag-Au alloys containing 0 - 100 at.% of each component. A correlation $\rho = A + T/B$ was ascertained, wherein A varies with composition in accordance with the law of a broken line having turning points corresponding to the compounds Ag_2Au, Ag_3Au, $AgAu_2$. B changes linearly with composition. At the same points are found the turning points of the broken line which represents dependence of Hall constant on composition. By using the results of determinations of the parameters of a lattice of Ag-Au alloys (Sachs G., Weerts I., Z. Phys., 1930, 60, 481), the author proposes an exact empirical formula for a, in which the concentrations (Ag)

Card : 1/2 -46-

Category: USSR / Physical Chemistry - Crystals B-5

Abs Jour: Referat Zhur-Khimiya, No 9, 1957, 29768

and (Au) appear as products $(Ag)^3(Au)$ and $(Ag)^2(Au)$. The conclusion is drawn that in the Ag-Au alloys compounds with 2- and 3-valent bonds are formed.

Card : 2/2 -47-

GRUM-GRZHIMAYLO, N.V.; GROMOVA, V.G.

The Hall effect in titanium-molybdenum alloys. Zhur. neorg. khim. 2 10:2426-2428 O '57. (MIRA 11:3)
(Hall effect) (Titanium-molybdenum alloys)

GRUM-GRZHIMAYLO, N.V.

126-1-4/40

AUTHOR: Grum-Grzhimaylo, N. V.

TITLE: Residual electric resistance of binary systems of metallic alloys. (Ostatochnoye elektrosoprotivleniye binarnykh sistem metallicheskikh splavov).

PERIODICAL: Fizika Metallov i Metallovedeniye, 1957, Vol.5, No.1, pp. 23-29 (USSR)

ABSTRACT: Nordheim, L. (Ref.2) supplemented the Bloch theory of electric conductivity and established a relation between the residual electric resistance of uniform phases of alloys of univalent metals. Further theoretical investigations carried out by various authors, including A. A. Smirnov (Refs.3 and 4) and S. Ryzhanov (Ref.5), resulted in a considerable improvement of the theory. However, all these authors base their considerations to some extent on the interpolation formula of Nordheim assuming that experimental data basically confirm this formula. Particularly, Nordheim showed that the relation derived by him is satisfactorily confirmed for the system of alloys of gold with silver which were investigated by Gruneisen, E. (Ref.6). However, Gruneisen determined only the total electric resistance of some alloys of this system and on the basis of this it is not possible to

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Residual electric resistance of binary systems of metallic alloys.

determine the residual resistance. Therefore, assuming independence of the temperature coefficient on the state of the alloy, Nordheim could use solely the isotherm of the total resistance of the alloys, i.e. he based his considerations on the assumption of independence of the temperature coefficient of the resistance on the composition of the alloy, which has not been proved. As far as the author of this paper is aware, this assumption has not been proved experimentally and is highly arbitrary and, therefore, the here described investigations were carried out for verifying this assumption. The author used previously published experimental data (Ref.7). Measurement of the residual electric resistance was based on the Matthiesen rule that, within a certain temperature range of the linear temperature dependence of the electric resistance, the residual resistance is equal to the constant term of the mathematical dependence given by Matthiesen. For the two systems (potassium with rubidium and silver with copper) literary data were used. The binary system potassium-rubidium was studied in great detail by Kurnakov, N. S. and Nikitinskiy, A.N. (Ref.8), who established that these components form a continuous series of solid solutions for

Residual electric resistance of binary systems of metallic alloys.

the entire range of components of these alloys. The data of the electric resistance measured by these authors permits reliable calculation by means of the method of least squares of the residual specific resistance and the temperature coefficients for the alloys of the entire system and the results of such calculations have been published (Ref.9). These show that the residual resistance of alloys of potassium with rubidium does not change according to the parabolic law as is required by the Nordheim formula but according to the linear law, in direct proportion to the composition. The assumption of the independence of the temperature coefficient on the composition has not been confirmed and this dependence was found to follow a hyperbolic law, whereby the asymptotes of the hyperbola are parallel to the coordinate axes. The alloys of potassium with rubidium were chosen because these are the most suitable for verifying the Nordheim formula. Gold, silver and copper enter into chemical compounds as univalent metals; also they form easily compounds with the participation not only of s-electrons but also of d-electrons with a deeper atom shell. The compounds AuCu and $AuCu_3$, which

 form ordered phases, have been thoroughly studied. On the

Residual electric resistance of binary systems of metallic alloys. 126-1-4/40

basis of the data published by Kurnakov and Ageyev, the authors determined the residual resistance of CuAu and Cu_3Au alloys and from these data they calculated the interpolation formula of Nordheim; the results are graphed in Fig.1 which also contains measured values. It can be seen that the calculated Nordheim curve does not conform with the results obtained by direct measurement. Fig.2 gives the residual electric resistance and the inverse value of the temperature coefficient of the coefficient of electric resistance of alloys of gold and silver. Again the calculated parabola is not in agreement with measured experimental data. Results obtained for nickel-copper alloys, cadmium-magnesium alloys, nickel-cobalt alloys and iron-chromium alloys (Figs.3-6) are also reproduced. All these results disprove the validity of the interpolation formula of Nordheim.

There are 6 figures and 15 references, 9 of which are Slavic.

SUBMITTED: June 22, 1956.

ASSOCIATION: Institute of Metallurgy imeni A. A. Baykov. (Institut Metallurgii imeni A. A. Baykova).

AVAILABLE: Library of Congress.

Card 4/4

AUTHOR: Grum-Grzhimaylo, N.V. (Moscow). 24-7-4/28

TITLE: Diffusion in alloys of titanium with niobium. (Diffuziya v splavakh titana s niobiyem).

PERIODICAL: "Izvestiya Akademii Nauk, Otdeleniye Tekhnicheskikh Nauk" (Bulletin of the Ac.Sc., Technical Sciences Section), 1957, No.7, pp.24-28 (U.S.S.R.)

ABSTRACT: Diffusion and self-diffusion involves a series of different processes at the surface as well as in the body of crystalline substances and, therefore, a measured value of the diffusion constant does not reflect an unequivocal phenomenon and this should be taken into consideration, particularly in the case of theoretical comparison of diffusion processes with certain important physical properties. The aim of this paper is to indicate these differing processes which may manifest themselves appreciably on the results of determination of the diffusion constant. As an object of investigation the binary system of alloys of titanium with niobium was chosen applying as a diffusion agent titanium activated with Sc^{46} since this element is formed as a result of radio-active transformation of titanium with a very short (a few seconds) half-life; its content in the activated titanium is so negligible that during diffusion the composition of the alloy will not change. Consequently, the process will not proceed

1/3

Diffusion in alloys of titanium with niobium. (Cont.)

like diffusion (involving a concentration gradient) but like self-diffusion. The experiments were carried out on pressed specimens in the form of discs of 15 mm dia., 4 mm high which were provided in the middle with a layer of activated titanium of a thickness below 0.005 mm. Such specimens are convenient for investigating diffusion and sintering phenomena since the loss of radio-active substances is completely eliminated. The obtained results are entered in a table and in graphs. Fig.1 shows the dependence of the relative radiation intensity for a specimen consisting of 70 at.% Ti and 30 at.% Nb as a function of the time of sintering at 1000 C; Fig.2 shows the same relation for a specimen consisting of 60 and 40 at.% respectively of Ti and Nb. The graphs of Figs. 1 and 2 indicate clearly the instant of closing of the pores; up to that instant the relative radiation intensity curve is slightly convex and passes from that point onwards into a straight line. The measured values of diffusion of Sc into the Ti-Nb alloys enabled calculation of the diffusion coefficients and the obtained results are entered in the table, p.28 and in the graph, Fig.3.

2/3 A characteristic feature of the obtained results is the higher diffusion coefficient of Sc both in pure titanium and pure

Diffusion in alloys of titanium with niobium. (Cont.)

24-7-4/28

niobium and the intensive increase of the diffusion coefficients at 1000 as well as 1200 C for the alloy containing 90% Nb and 10% Ti. To elucidate the physical nature of the observed phenomena the activation heats E of all the alloys were calculated and the results are plotted in the graph, Fig.4; these show that the diffusion coefficient of completely sintered alloys changes little within a wide range and that there is an anomaly for the alloy containing 10 at.% Ti and 90 at.% Nb. A characteristic feature is thereby that this is caused by an intensive increase of only the pre-exponential factor and is not reflected in the activation heat. There is reason to believe that the diffusion constant for this composition does really increase intensively and that the measured values cannot be attributed to measuring errors.

3/3 There are four figures, one table and three references, one of which is Slavic.

SUBMITTED: June 22, 1956.

AVAILABLE:

78-3-4-9/38

AUTHORS: Grum-Grzhimaylo, N. V., Prokof'yev, D. I.

TITLE: On the Phase Diagram of the Ternary System Chromium-Tungsten-Molybdenum (O fazovoy diagramme troynoy sistemy khrom-vol'fram-molibden)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 4, pp. 889-894 (USSR)

ABSTRACT: The complete phase diagram of the ternary system chromium-tungsten-molybdenum was investigated.
The properties of the alloys of three isothermal sections at 1800, 1300 and 1000°C were investigated.
At 1800°C the metals chromium, tungsten and molybdenum form a continuous series of solid solutions with volume-centered cubic lattice. The sintered alloys of these metals have finely-crystalline structure.
The continuous solid solutions formed in sintering become unstable with a temperature decrease. The solid solutions formed at high temperature decompose on thermal treatment into two ternary solid solutions of which the one is an α-system on the basis of chromium and the other an α_2-system on the basis of tungsten.

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On the Phase Diagram of the Ternary System Chromium-Tungsten-Molybdenum

At temperatures of 1300 and 1000°C a field of biphase alloys forms in the ternary system which begins at the side of the binary system chromium-tungsten and ends in the interior of the concentration triangle of the ternary system with an increase of the molybdenum content in the alloys. The ternary alloys have the same structure in the molybdenum corner of the system at any temperature.

The solid solutions of the alloys of the ternary system chromium-tungsten-molybdenum were investigated by radiographic analysis.

Based on the changes of the parameter of the ternary solid solution formed at high temperature the parameter surface and the line of the isoparameter of the alloys at 1800°C were constructed.

By means of the parametric method the limit of the decomposition of the isothermal lines of the ternary solid solutions at 1300 and 1000°C was determined. There are 6 figures, 3 tables, and 13 references, 5 of which are Soviet.

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78-3-4-9/38

On the Phase Diagram of the Ternary System Chromium-Tungsten-Molybdenum

ASSOCIATION: Institut metallurgii im. A. A. Baykova Akademii nauk SSSR (Metallurgical Institute imeni A. A. Baykov, AS USSR)

SUBMITTED: June 25, 1957

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AUTHORS: Grum-Grzhimaylo, N. V., Prokof'yev, D. I. 78-3-5-28/39

TITLE: Investigations on the Phase Diagram of the Ternary System Chromium-Tungsten-Molybdenum (Issledovaniye diagrammy sostoyaniya troynoy sistemy khrom-vol'fram-molibden). I. Microscopic- and X-ray Structural Investigations of the Alloys (I. Mikroskopicheskoye i rentgenostrukturnoye issledovaniye splavov)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol 3, Nr 5, pp 1220-1226 (USSR)

ABSTRACT: The phase composition and the structure of the ternary alloys of the ternary system chromium-tungsten-molybdenum were investigated. The alloys with isothermic sections were investigated at 1800, 1300 and 1000°C, in every concentration within the triangle of the ternary system. At 1000°C chromium, tungsten and molybdenum form, in all concentrations of the triangle, continuous series of solid solutions with a cubically volume-centered lattice. The continuous solid solutions which were formed are unstable at reduced temperature. The high-temperature-resistant solid ternary-system-solutions decompose, upon thermic treatment, into two

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Investigations on the Phase Diagram of the Ternary System [illegible]/30
Chromium-Tungsten-Molybdenum. I. Microscopic- and X-ray-
structural Investigations of the Alloys

ternary-solid solutions, one of which on the basis of chromium, the other on the basis of tungsten. At temperatures of from 1300 to 1000°C, fields of diphase alloys are formed in the ternary system, which begin at the side of the binary chromium-tungsten-system, and which continue into the interior of the triangle of the ternary system. The ternary alloys in the molybdenum-corner are monophase at all temperatures. The limit of the diphase part in the ternary system was determined on two isothermic sections at 1300 and 1000°C. There are 7 figures, 1 table, and 27 references, 6 of which are Soviet.

SUBMITTED: May 15, 1957

AVAILABLE: Library of Congress

Card 2/2 1. Chromium-tungsten-molybdenum alloys--Phase [illegible] 2. Chromium-tungsten-molybdenum alloys--Microanalysis 3. [illegible] sten-molybdenum alloys--Structural analysis

AUTHORS: Grum-Grzhimaylo, N. V., Popov, I. A. 78-3-5-29/39

TITLE: The Hall Effect in the Alloys of Chromium With Molybdenum (Effekt Kholla v splavakh khroma s molibdenom)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol 3, Nr 5, pp 1227-1231 (USSR)

ABSTRACT: The dependence of the constant of the Hall effect on the composition of the chromium-molybdenum system was investigated. All alloys in concentrations of from 0 to 100% molybdenum form continuous solid solutions. Chemical compounds of the following formulae: Cr_5Mo, Cr_3Mo, $CrMo_2$ and Cr_2Mo_5, are formed between the components of chromium and molybdenum. The occurence of new phases is possible in the formation of these chemical compounds, provided that the thermodynamical conditions with which separation and crystallization of the new phase can be achieved, are satisfied. There are 3 figures, 2 tables, and ' Polish references.

Card 1/2

The Hall Effect in the Alloys of Chromium With Molybdenum 24-3-5-22/32

SUBMITTED: May 15, 1957

AVAILABLE: Library of Congress

1. Chromium--molybdenum alloys--Hall effect 2. Chromium--molybdenum alloys--Phase studies 3. Hall effect

Card 2/2

AUTHORS: Grum-Grzhimaylo, N.V., Prokof'yev, D.I. 78-3-6-30/30

TITLE: Diagram With Holl-Effect in the Alloys of the Molybdenum-Tungsten System (Diagramma kholl-effekta sistemy splavov molibden-vol'fram)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 6, pp 1470-1471 (USSR)

ABSTRACT: The alloys of the molybdenum-tungsten system are characterized by a continuous series of solid solutions in the range of concentration of the componentsof from 0 to 100%. Up to now, no chemical compounds were found in the fields of solid solutions. The Holl-effect was applied for the determination of covalent chemical compounds in the alloys of the molybdenum-tungsten system. The alloys were produced from powdery molybdenum and tungsten in the vacuum-furnace T.BB-2 at temperatures of from 2000 to 2200°C by means of powder-metallurgy. The Holl-constant was calculated from these alloys. The results obtained were graphically represented in a system of coordinates in which the Holl-constant denotes the abscissa and the composition in atomic per cents signify

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78-3-6-30/30

Diagram With Holl-Effect in the Alloys of the Molybdenum-Tungsten System

the ordinate. It was found that a chemical compound of MoW exists due to the dependence of the change of the constant of the Hall-effect on the composition in the binary system of molybdenum-tungsten. There are 1 figure, 0 tables, and 5 references, 3 of which are Soviet.

SUBMITTED: October 25,1957

AVAILABLE: Library of Congress

1. Molybdenum-tungsten alloys--Phase studies

Card 2/2

USCOMM-DC-55298

AUTHOR: Grum-Grzhimaylo, N.V. SOV / 78-3-7-43/44

TITLE: The Hall Constant in Binary Titanium- and Niobium Alloys (Konstanta Kholla binarnykh splavov titana s niobiyem)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 7, pp 1715-1716 (USSR)

ABSTRACT: Alloys of niobium and titanium were produced by the sintering method. Their composition changes from alloy to alloy by four atomic percents of each of the components. Sintering was carried out at 1000° C in the course of 24 hours, and, subsequently at 1200° C for the same period. The dependence of the Hall (Kholl) constant on the composition of the alloys was graphically expressed. Alloys with a niobium content of up to 64 atomic percents have an invariable Hall constant, but alloys with a lower niobium content have a lower Hall-constant value. The variation of the Hall-constant of the alloys gave rise to the opinion that the following chemical compounds exist in binary solid solutions: $TiNb_2$, Ti_2Nb and Ti_3Nb. There are 1 figure, 1 table and 4 references, 3 of which are Soviet.

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1. Sintered niobium-titanium alloys--Properties 2. Sintered niobium-titanium alloys--Chemical analysis

The Hall Constant in Binary Titanium and Niobium Alloys 307/ 78-3-7-43/44

SUBMITTED: November 10, 1957

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18(3)
AUTHOR: Grum-Grzhimaylo, N. V. SOV/20-121-5-23/50

TITLE: Oscillations and the Resonance in the Kinetics of Martensite Formation(Ostsillyatsii i rezonans v kinetike martensito-obrazovaniya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 5, pp 850 - 851 (USSR)

ABSTRACT: The author investigated the dependence of the parameters of the crystal lattices of iron-carbon alloys at temperatures which correspond to the existence of austenite. There are 2 systems of iron-carbon alloys; alloys composed of iron and iron carbide and alloys composed of iron and graphite. According to the above mentioned investigations, these properties of the iron-carbon alloys are caused by the fact that the iron carbide (which is dissolved in iron (austenite)) tends to form a polymer $Fe_{18}C_6$. This polymer is not stable after being separated from austenite, and therefore it is decomposed and generates graphite. The mutual connection of the above mentioned 2 systems may be

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explained by such a treatment of the iron-carbon diagram. This mutual connection depends on the character of the thermodynamic equilibrium of the polymerization of the carbide according to the reaction $Fe_{18}C_6 \rightleftarrows 6Fe_3C$. The quantity of this polymer increases especially fast if the austenite is undercooled. Therefore the polymerization of the carbide dissolved in austenite must exercise considerable influence on the isothermal decomposition of austenite at temperatures which are lower than A_1. It is necessary to calculate the velocity of the reaction $Fe_{18}C_6 \rightleftarrows 6Fe_3C$ and to take into account the influence of the supercooling of austenite. The decomposition of austenite essentially changes the structure of the exterior shells of the iron atoms and this changes the direction of the electron spins. Therefore a ferromagnetism is induced. The influence of this phenomenon on the kinetics of the decomposition of austenite is not known, it is represented by a certain function Φ of the temperature.

Oscillations and the Resonance in the Kinetics of Martensite Formation SOV/20-121-5-23/59

An expression is then deduced for the rate of the decomposition of austenite. Previous results are used for the determination of the concentration of carbide. The curve for Φ (T) is given in a diagram. Ferromagnetic conversion exercises a very considerable influence on the kinetics of the decomposition of austenite and it has also an oscillating character. In the point of the martensite formation the function obviously has a resonance character. The decomposition of austenite and the formation of martensite increase several thousand times. This is of very great importance for the explanation of the real nature of martensite conversion. There are 1 figure and 3 references, 2 of which are Soviet.

ASSOCIATION: Institut metallurgii im.A.A.Baykova Akademii nauk SSSR (Institute of Metallurgy imeni A.A.Baykov, AS USSR)

PRESENTED: April 11, 1958, by I.P.Bardin, Academician

Grum-Grzhimaylo, N.V.

18(7) PHASE I BOOK EXPLOITATION SOV/3355

Akademiya nauk SSSR. Institut metallurgii. Nauchnyy sovet po probleme zharoprochnykh splavov

Issledovaniya po zharoprochnym splavam, t. IV (Studies on Heat-Resistant Alloys, vol. 4). Moscow, Izd-vo AN SSSR, 1959. 400 p. Errata slip inserted. 2,200 copies printed.

Ed. of Publishing House: V. A. Klimov; Tech. Ed.: A. P. Guseva; Editorial Board: I. P. Bardin, Academician; G. V. Kurdyumov, Academician; M. V. Agapyev; Corresponding Member, USSR Academy of Sciences; I. A. Oding, I. M. Pavlov, and I. F. Yudin, Candidate of Technical Sciences.

PURPOSE: This book is intended for metallurgists concerned with the structural metallurgy of alloys.

COVERAGE: This is a collection of specialized studies of various problems in the structural metallurgy of heat-resistant alloys. Some are concerned with theoretical principles, some with descriptions of new equipment and methods, others with properties of specific materials. Various phenomena occurring under specified conditions are studied and reported on. For details, see Table of Contents. The articles are accompanied by a number of references, both Soviet and non-Soviet.

Studies (Cont.) SOV/3355

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PHASE I BOOK EXPLOITATION SOV/4800

Grum-Grzhimaylo, Nikolay Vladimirovich

Khimicheskiye svyazi v metallicheskikh splavakh (Chemical Bonds in Metal Alloys) Moscow, Izd-vo AN SSSR, 1960. 106 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova.

Resp. Ed.: I.I. Chernyayev, Academician; Ed. of Publishing House: V.V. Yastrebov; Tech. Ed.: N.F. Yegorova.

PURPOSE: This book is intended for metallurgists and specialists in the physics of metals and in metallographic research.

COVERAGE: The book proposes to determine some elements of the true nature of chemical bonds in metal alloys by examining the available experimental results in the light of data from atomic physics which best explain atomic phenomena. The author states that he found it necessary in some cases to depart from normally accepted concepts and to formulate new ones which embody more recent results. The book

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also deals with some general questions and discusses a variety of problems of the structure of metals and chemical bonds and the elementary processes accompanying them. Illustrations of the crystal structure of intermetalloids accompany the text. No personalities are mentioned. There are 52 references, 32 Soviet (including 1 translation), 12 German, and 8 English.

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GRUM-GRZHIMAYLL, N.V

PHASE I BOOK EXPLOITATION SOV/4558
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Akademiya nauk SSSR. Institut metallurgii

Metallurgiya, metallovedeniye, fiziko-khimicheskiye metody issledovaniya (Physicochemical Research Methods in Metallurgy and Metal Science) Moscow, Izd-vo AN SSSR, 1960. 251 p. (Series: Its: Trudy, vyp. 5) Errata slip inserted. 2,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A.A. Baykova.

Resp. Ed.: I.P. Bardin, Academician (Deceased); Ed. of Publishing House: V.A. Klimov; Tech. Ed.: T.P. Polenova.

PURPOSE: This collection of articles is intended for metallurgists and metal researchers.

COVERAGE: The collection contains articles on metallurgy, metal science, and physicochemical research methods. Separate articles discuss the structure and properties of some metals and alloys. The effect of cold treatment and inclusions on the properties of alloys are analyzed, and instruments and

S/509/60/000/004/015/024
E111/E152

AUTHOR : Grum-Grzhimaylo, N.V.

TITLE: Chemical Affinity in Solid Solutions of Metallic Alloys

PERIODICAL: Akademiya nauk SSSR. Institut metallurgii. Trudy, No.4, 1960. Metallurgiya metallovedeniye, fiziko-khimicheskiye metody issledovaniya, pp.175-188

TEXT: The author gives a comprehensive discussion of published and original work bearing on the chemical nature of solid solutions in metallic alloys. He considers photometry of X-ray spectra of comparatively little use for this. He agrees that deviation from additivity of lattice parameter changes with composition is due to chemical interatomic bonds and gives an experimental proof. From comparison of calculated and experimental parameter values for many alloys an error-frequency curve was drawn (curve 2 in Fig.1); this is of the Gaussian (curve 1) type. This verifies the author's position that knowing the chemical compound in the solid solution, one can calculate the deviation and conversely. He applies the relation to austenite, using data of H. Esser and G. Mueller (Ref.1). Lengthy calculations (not given)

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